

**Listing of the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

What is claimed is:

1. (Currently Amended) A method for distributing candidate motion vectors, the method comprising:  
dividing a picture frame ~~(110)~~ into a plurality of segments using a first component of a motion estimation module ~~(120)~~, each segment ~~(120)~~ comprising a plurality of pixel blocks ~~(130)~~;  
measuring local motion complexity for each segment using a second component of a motion estimation module ~~(120)~~; and  
assigning a number of candidate motion vectors to pixel blocks ~~(130)~~ within each segment ~~(120)~~ based on the measured local motion complexity using a third component of a motion estimation module.
2. (Currently Amended) The method of claim 1, wherein the step of measuring comprises: determining a sum-of-absolute differences between pixel blocks ~~(130)~~ of the picture frame ~~(110a)~~ and corresponding pixel blocks ~~(130)~~ of an adjacent frame ~~(110b)~~; and summing the measured sum-of-absolute differences associated with of pixel blocks ~~(130)~~ within each segment ~~(120)~~.
3. (Currently Amended) The method of claim 2, wherein the step of assigning comprises using a distribution function configured to assign the number of candidate vectors based on the measured local motion complexity of each segment ~~(120)~~.
4. (Original) The method of claim 3, wherein the distribution function is based on a maximum, minimum and average of the measured sum-of-absolute differences of the segments.
5. (Currently Amended) The method of claim 4, wherein the distribution function ~~function~~ is further based on predetermined values for a maximum, minimum and average number of candidate vectors per block.

6. (Currently Amended) The method of claim 1, further comprising performing motion estimation on the pixel blocks (430) using the number of candidate vectors assigned to each pixel block (430).

7. (Currently Amended) A system for distributing candidate vectors, the system comprising: ~~means for dividing a first microprocessor that divides~~ a picture frame (440) into a plurality of segments (420), each segment (420) comprising a plurality of pixel blocks (430); means for measuring local motion complexity for each segment (420); and ~~means assigning a second microprocessor that assigns~~ a number of candidate motion vectors to pixel blocks (430) within each segment (420) based on the measured local motion complexity.

8. (Currently Amended) The system of claim 7, wherein the means for measuring comprises: means for determining a sum-of-absolute differences between pixel blocks (430) of the picture frame (440a) and corresponding pixel blocks (430) of an adjacent frame (440b); and means for summing the measured sum-of-absolute differences associated with of pixel blocks (430) within each segment (420).

9. (Currently Amended) The system of claim 8, wherein the means for assigning uses a distribution function configured to assign the number of candidate vectors based on the measured local motion complexity of each segment (42).

10. (Original) The system of claim 9, wherein the distribution function is based on a maximum, minimum and average of the measured sum-of-absolute differences of the segments.

11. (Currently Amended) The system of claim 10, wherein the distribution function ~~function~~ is further based on predetermined values for a maximum, minimum and average number of candidate vectors per block.

12. (Currently Amended) The system of claim 7, further comprising means for performing motion estimation on the pixel blocks (430) using the number of candidate vectors assigned to each pixel block (430).